

Application No.: 10/045,325
Amendment Dated: February 13, 2004
Reply to Office Action of: November 14, 2003

MAT-8191US

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) An electric circuit of an electric vehicle, said circuit comprising:

- (a) a drive-motor;
- (b) a drive-motor driving device;
- (c) an electric compressor for air-conditioning the vehicle;
- (d) compressor-driving device;

(e) a dc power supply, coupled to ~~respective~~ input terminals of said drive-motor driving device ~~and said compressor-driving device~~, for powering both of said drive-motor driving device and said compressor-driving device;

(f) a smoothing capacitor coupled to ~~an~~ the input terminals of said drive-motor driving device, and shared by both of said drive-motor driving device and said compressor-driving device;

(g) a radiator shared by both of said drive-motor driving device and said compressor-driving device; and

(h) a case for shielding electromagnetic wave,

wherein said drive-motor driving device, said compressor-driving device, said radiator, and said smoothing capacitor are disposed in said case,

the input terminals and said smoothing capacitor are connected to each other in the case, the connection extending one set of wires outside the case for coupling to said dc power supply.

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wherein said smoothing capacitor, which is disposed outside said dc power supply, is coupled to respective input terminals of said drive-motor driving device and said compressor-driving device, and

a location of said compressor-driving device relative to a location of said smoothing capacitor limits a surge voltage generated by current which flows in wires extending from said smoothing capacitor to said compressor-driving device.

2. (Original) The electric circuit of claim 1, wherein

said dc power supply extends wires to said compressor-driving device for powering, the wires having different lengths in plus (+) and minus (-) for preventing the wires from being reversely connected to said dc power supply.

3. (Previously Presented) The electric circuit of claim 1, wherein

said compressor-driving device includes one of a film capacitor and a ceramic capacitor for absorbing a surge voltage, one of the capacitors being coupled between wires extended from said dc power supply.

4. (Currently Amended) The electric circuit of claim 1, wherein

the wires[[,]] extended from said dc power supply to said compressor-driving device are for powering[[,]] and include[[s]] a shielded-line having a core wire and an outer wire, the core wire and the outer wire supplying power.

5. (Currently Amended). The electric circuit of claim 1, wherein

the wires[[,]] extended from said dc power supply to said compressor-driving device are for powering[[,]] and include[[s]] parallel wires held by bendable resin.

6. (Currently Amended) The electric circuit of claim 1, wherein

the wires[[,]] extended from said dc power supply to said compressor-driving device are for powering[[,]] and include[[s]] twisted-paired wires.

7. (Original) The electric circuit of claim 1, wherein

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said compressor-driving device includes an inverter-circuit, and a power-line extended from said dc power supply to said compressor-driving device for powering is coupled to an input terminal of the inverter-circuit directly or via a current detector which detects current in the inverter-circuit.

8. (Original) The electric circuit of claim 1, wherein

said compressor-driving device includes (d-1) driving-device controlling circuit for controlling the driving device; and (d-2) a power supply circuit for obtaining an exclusive control power supply by converting a voltage supplied from said dc power supply, the driving-device controlling circuit using the exclusive control power supply.

9. (Original) The electric circuit of claim 1, wherein

said compressor-driving device lowers an output of said compressor-driving device when said drive-motor driving device is heavily loaded.

10. (Original) The electric circuit of claim 4, wherein

the wires of power lines have different lengths in plus (+) and minus (-) for preventing the wires from being reversely coupled to said dc power supply.

11. (Original) The electric circuit of claim 5, wherein

the wires of power lines have different lengths in plus (+) and minus (-) for preventing the wires from being reversely coupled to said dc power supply.

12. (Original) The electric circuit of claim 8, wherein

said compressor-driving device includes a diode through which current flows when a power-line extended from said dc power supply to said compressor-driving device is normally connected, and a switch disposed in parallel with the diode.

13. (Currently Amended) An electric circuit of an electric vehicle, said circuit comprising:

- (a) a drive-motor;
- (b) a drive-motor driving device;

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- (c) an electric compressor for air-conditioning the vehicle;
- (d) a compressor-driving device including one of a film capacitor and a ceramic capacitor for absorbing a surge voltage, one of the capacitors being coupled between the wires extended from ~~said~~ a dc power supply;
- (e) ~~asaid~~ dc power supply[[,]] ~~being~~ coupled to ~~respective~~ input terminals of said drive-motor driving device ~~and said compressor-driving device~~, for powering both of said drive-motor driving device and said compressor-driving device;
- (f) a smoothing capacitor coupled to an input terminal of said drive-motor driving device, and shared by both of said drive-motor driving device and said compressor-driving device;
- (g) a radiator shared by both of said drive-motor driving device and said compressor-driving device; and
- (h) a case for shielding electromagnetic wave,
- wherein said drive-motor driving device, said compressor-driving device, and said smoothing capacitor are disposed in said case, and
- the input terminals and said smoothing capacitor are connected to each other in the case, the connection extending one set of wires outside the case for coupling to said dc power supply,
- wherein said smoothing capacitor, which is disposed outside said dc power supply, is coupled to respective input terminals of said drive-motor driving device and said compressor-driving device, and
- a location of said compressor-driving device relative to a location of said smoothing capacitor limits a surge voltage generated by current which flows in wires extending from said smoothing capacitor to said compressor-driving device, and
- wherein the wires[[,]] ~~extended from said dc power supply~~ to said compressor-driving device are for powering[[,]] and include[[s]] a shielded-line having a core wire and an outer wire, the core wire and the outer wire supplying power.

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14. (Currently Amended) An electric circuit of an electric vehicle, said circuit comprising:

- (a) a drive-motor;
- (b) a drive-motor driving device;
- (c) an electric compressor for air-conditioning the vehicle;
- (d) a compressor-driving device including one of a film capacitor and a ceramic capacitor for absorbing a surge voltage, one of the capacitors being coupled between the wires extended from said dc power supply;
- (e) ~~a said dc power supply~~ being coupled to respective input terminals of said drive-motor driving device and said compressor-driving device, for powering both of said drive-motor driving device and said compressor-driving device;
- (f) a smoothing capacitor coupled to an input terminal of said drive-motor driving device, and shared by both of said drive-motor driving device and said compressor-driving device;
- (g) a radiator shared by both of said drive-motor driving device and said compressor-driving device; and
- (h) a case for shielding electromagnetic wave,

wherein said drive-motor driving device, said compressor-driving device, and said smoothing capacitor are disposed in said case, ~~and~~

the input terminals and said smoothing capacitor are connected to each other in the case, the connection extending one set of wires outside the case for coupling to said dc power supply,

wherein said smoothing capacitor, which is disposed outside said dc power supply, is coupled to respective input terminals of said drive-motor driving device and said compressor-driving device,

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a location of said compressor-driving device relative to a location of said smoothing capacitor limits a surge voltage generated by current which flows in wires extending from said smoothing capacitor to said compressor-driving device, and

wherein the wires[[,]] ~~extended from said dc power supply to said compressor-driving device~~ are for powering[[,]] and include[[s]] parallel wires held by bendable resin.

15. (Currently Amended) An electric circuit of an electric vehicle, said circuit comprising:

- (a) a drive-motor;
- (b) a drive-motor driving device;
- (c) an electric compressor for air-conditioning the vehicle;
- (d) a compressor-driving device including one of a film capacitor and a ceramic capacitor for absorbing a surge voltage, one of the capacitors being coupled between the wires extended from ~~said~~ a dc power supply;
- (e) ~~a~~ said dc power supply[[,]] being coupled to respective-input terminals of said drive-motor driving device and said compressor-driving device, for powering both of said drive-motor driving device and said compressor-driving device;
- (f) a smoothing capacitor coupled to an input terminal of said drive-motor driving device, and shared by both of said drive-motor driving device and said compressor-driving device;
- (g) a radiator shared by both of said drive-motor driving device and said compressor-driving device; and
- (h) a case for shielding electromagnetic wave,

wherein said drive-motor driving device, said compressor-driving device, and said smoothing capacitor are disposed in said case, ~~and~~

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the input terminals and said smoothing capacitor are connected to each other in the case, the connection extending one set of wires outside the case for coupling to said dc power supply.

wherein said smoothing capacitor, which is disposed outside said dc power supply, is coupled to respective input terminals of said drive-motor driving device and said compressor-driving device, and

a location of said compressor-driving device relative to a location of said smoothing capacitor limits a surge voltage generated by current which flows in wires extending from said smoothing capacitor to said compressor-driving device, and

wherein the wires extended from ~~said dc power supply~~ to said compressor-driving device are for powering and include parallel wires held by bendable resin.

16. (Currently Amended) An electric circuit of an electric vehicle, said circuit comprising:

- (a) a drive-motor;
- (b) a drive-motor driving device;
- (c) an electric compressor for air-conditioning the vehicle;
- (d) a compressor-driving device including (d-1) driving-device controlling circuit for controlling the driving device; and (d-2) a power supply circuit for obtaining an exclusive control power supply by converting a voltage supplied from ~~said~~ dc power supply, the driving-device controlling circuit using the exclusive control power supply;
- (e) a ~~said~~ dc power supply being coupled to ~~respective~~ input terminals of said drive-motor driving device and ~~said compressor-driving device~~, for powering both of said drive-motor driving device and said compressor-driving device;
- (f) a smoothing capacitor coupled to an input terminal of said drive-motor driving device, and shared by both of said drive-motor driving device and said compressor-driving device;

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(g) a radiator shared by both of said drive-motor driving device and said compressor-driving device; and

(h) a case for shielding electromagnetic wave,

the input terminals and said smoothing capacitor are connected to each other in the case, the connection extending one set of wires outside the case for coupling to said dc power supply,

wherein said smoothing capacitor, which is disposed outside said dc power supply, is coupled to respective input terminals of said drive-motor driving device and said compressor-driving device, and

a location of said compressor-driving device relative to a location of said smoothing capacitor limits a surge voltage generated by current which flows in wires extending from said smoothing capacitor to said compressor-driving device, and

wherein said drive-motor driving device, said compressor-driving device, and said smoothing capacitor are disposed in said case.